REMARKS

Applicants, their principal representatives in Germany, and the undersigned have carefully reviewed the first Office Action on the merits in the subject U.S. patent application, together with the prior art cited and relied on in the rejection of the claims. In response, the claims of the application have been amended. It is believed that the claims which are now pending in the subject U.S. patent application are patentable over the prior art cited and relied on, taken either singly or in combination. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

As described in the Substitute Specification, as depicted in the formal patent drawings, and as recited in the currently pending claims, the subject invention is directed to a wheel folding apparatus. As may be seen most clearly in Fig. 1 of the drawings, a transport cylinder 11 is adapted to receive and to transport at least one web of material. One such web is depicted at 03 and may be either a single layer web or a multi-layer web. The transport cylinder 11 has a circumferential surface and a circumferential direction.

A pair of first and second folding rollers, 17 and 18 are associated with the transport cylinder 11. These folding rollers 17 and 18 define a folding gap 19, all as may also be seen in Fig. 1.

A first transverse cutting assembly is, as seen in Fig. 1, cooperating with transport cylinder 11 to form a first cutting gap 08. A first cutting cylinder 12 is part of the first transverse cutting assembly and is provided with at least one first cutting cylinder blade 14. This first cutting gap 08 defines a first conveying path for passage of

the first web of material 03.

A second transverse cutting assembly, which is also cooperating with the transport cylinder 11, is also depicted in Fig. 1. As recited in currently amended claim 28, this second transverse cutting assembly defines a second cutting gap 09 through the provision of a second cutting cylinder 13 which is also provided with at least one second cutting cylinder blade 14. The second cutting gap 09 defines a second conveying path for passage of both the first web 03 and also for the passage of a second web 04.

A plurality of cutting blade engaging backstops are provided on the circumferential surface of the transport cylinder 11. One such backstop is shown at 33, as may be seen more clearly in Fig. 2, for example.

The first and second transverse cutting assemblies are arranged offset from each other in the circumferential direction of the transport cylinder 11, as may be seen in Fig. 1. The cutting blade of the first cutting cylinder 12 cuts a first signature 21, as seen in Fig. 2, off the first web 03. The first signature 21 is carried by the transport cylinder to the second cutting gap 09. A second signature is cut from the second web 04 by the cutting blade of the second cutting cylinder 13, as may be seen in Fig. 3, for example.

The two cutting gaps are both located before, in the circumferential direction of the transport cylinder, the first and second folding rollers. The first and second cut signatures, which are situated one on top of the other, as depicted in Fig. 3, are carried around to the folding gap defined by the first and second folding rollers. They are folded transversely in that folding gap.

In the first Office Action on the merits of October 9, 2008, the prior Restriction Requirement, as initially made on June 13, 2008, was made final. In response, those claims not selected for prosecution in the subject application have either been cancelled or have been withdrawn. A number of the withdrawn claims have been amended in anticipation of their eventual rejoinder, upon the indication of allowability of independent claim 28.

Claims 28 and 34 were rejected under 35 USC 103(a) as being unpatentable over US Patent No 3,762,697 to Bolza-Schunemann in view of US Patent No 5,692,440 to Hillebrand. It was asserted in the Office Action that the Bolza-Schunemann reference teaches a wheel folding apparatus with a transport cylinder, first and second folding rollers and a first counter cylinder associated with the transport cylinder. It was noted that Bolza-Schunemann does not show a second counter cylinder cooperating with the transport cylinder and forming a second cutting gap.

The secondary reference to Hillebrand was cited as showing the conventionality of using two cutting cylinders 8 and 9 cooperating with the transport cylinders to vary the lengths of the signatures being cut. It was asserted in the Office Action that it would be obvious to provide the Bolza-Schunemann wheel folding apparatus with the dual cutting cylinders taught by Hillebrand to obtain products of various lengths, as claimed. For the reasons to be set forth below, it is believed that claim 28, as currently amended, is not rendered obvious by the combination of prior art references cited and relied on by the Examiner.

Initially, the attention of the Examiner is directed to the existence of US Patent No 7,351,189, which issued on April 1, 2008. This patent is <u>not</u> prior art to the subject

application and is not being listed on a PTO/SB/08a form. It has an effective reference date of September 12, 2003, the date of publication of the PCT application WO 2003/074402. The PCT application was filed on February 28, 2003 but was not published in English. Thus, the PCT application publication date controls. The '189 patent claims priority to DE 102 09 190. That application was published on September 25, 2003.

The subject US patent application in the national phase of PCT/EP2004/050656, which was filed April 30, 2004. That application claims priority, as does the subject US application, to DE 103 19 774.5, filed May 2, 2003. A verified English language translation of the German language specification of DE 103 19 774.5 is being filed concurrently with the filing of this Amendment. Since the filing date of the German application, from which the subject application claims priority, is May 2, 2003 and the effective US reference date of US Patent No 7,351,189 is September 12, 2003, the '189 patent is not available as a reference.

Both the '189 patent and the subject application are assigned to a common assignee. They have different inventors. In the '189 patent, the cutting device is used to produce signatures that are then directed to a folding jaw cylinder 18. In the subject application, the disclosed invention uses a pair of folding rollers, that are associated with the transport cylinder, to fold the signatures formed by the device.

Claim 28 of the subject application has been amended to more clearly define the structure of the subject application. While the language of various ones of the withdrawn claims has been included in currently amended claim 28, it is believed that this inclusion is not inconsistent with the election made in the Response to the

Restriction Requirement. The basic language of claim 28 has not been deleted and dependent claim 34 is still pending.

In the prior art patent to Bolza-Schunemann, US Patent No 3,762,697, there is disclosed a delivery mechanism for a single or double folder. A first web 101 is fed from a first fold former to a folding blade cylinder 105, as seen in Fig. 1. A second web 102 is fed from a second fold form to a second folding blade cylinder 106. Each such folding blade cylinder 105; 106 has its own pair of folding rollers 107 or 108, respectively. The folded products are dropped into delivery fans 109; 110 and are then deposited on conveyor belts 111, 112.

Each of the folding blade cylinders 105 and 106 cooperates with a cutting blade cylinder 103; 104 to define a nip through which the respective web 101; 102 passes. In the embodiment shown in Fig. 2, both of the webs 101 and 102 can be combined before the single nip that is defined by the folding blade cylinder 105 and the cutting blade cylinder 103. The second folding blade cylinder 106/cutting blade cylinder 104 combination is now not in use.

In the embodiment shown in Fig. 4, the web is cut by the cooperation of a folding cylinder 103 that releases the severed signatures to a folding jaw cylinder 207 instead of to a pair of folding rollers. A similar arrangement is shown in Fig. 5. Fig. 9 shows a collecting cylinder, which is not numbered, and which cooperates with a cutting blade cylinder, that is also not numbered. Two jaw cylinders 501 and 502 cooperate with the single collecting cylinder.

None of the devices that are shown in the Bolza-Schunemann reference, as admitted by the Examiner in the Office Action, show or suggest the provision of first and

second transverse cutting assemblies that are in engagement with the transport cylinder. While not also admitted in the Office Action, it is to be noted that currently amended claim 28 of the subject application also recites the provision of a first conveying path of a first web of material being formed by the first cutting gap. That first cutting gap is formed by the transport cylinder and the first transverse cutting assembly.

Claim 28, as amended further recites a second transverse cutting assembly cooperating with the one transport cylinder. A second cutting gap is defined by the transport cylinder and a second cutting apparatus. The second cutting gap provides a second conveying path for passage of both the first web of material and also for a second web of material that is fed to the second transverse cutting assembly. This structure is not shown, or suggested by the Bolza-Schunemann reference.

In the subject invention, as recited in currently amended claim 28, the first and second transverse cutting assemblies are arranged offset from each other in the circumferential direction of the transport cylinder. The first cutting assembly cuts the first web which then travels along the first conveying path to the second transverse cutting assembly. The second web is cut there. Both of the first web signature and the second web signature pass through the second cutting gap. Both of these first and second signatures are carried around the transport cylinder until they are transversely folded by the folding rollers.

The secondary reference to Hillebrand, US Patent No 5,692,440 is directed to a transverse cutting device that is usable to sever a printed web into signatures. This secondary reference does not provide the features of currently amended claim 28 that are missing from the Bolza-Schunemann reference.

In the Hillebrand device, a single web 28 is fed to a single collection cylinder 4. That single web is cut transversely into signatures by either one of first and second cutting cylinders 8 and 9. Each one of these cutting cylinders is depicted as having three circumferentially spaced cutters 13. The two cutting cylinders 8 and 9 are supported by a rotating cutting cylinder support 3. The cutting cylinder support 3 rotates at a speed which is coordinated to the speed of rotation of the collection cylinder 4 with which the two cutting cylinders 8 and 9 alternatively cooperate. The benefit of this cooperative rotation is that the cutting blades have a better angle of approach and departure, with respect to the cutting strips 16 on the collection cylinder than they would if they were not supported by the rotating cutting cylinders support. While this makes for a better cut of the single web 28, it does not supply any teachings that would be usable with the Bolza-Schunemann device to render obvious the subject invention, as set forth in currently amended claim 28.

Applying the teachings of the Hillebrand reference to the Bolza-Schunemann reference would result in the substitution of the cutting cylinder support 3 of Hillebrand, with its two cylinders 8; 9 for one of the cutting cylinders 103; 104 of Bolza-Schunemann. The resultant device would not be particularly similar to the subject invention, as recited in currently amended claim 28. There would still be only one cutting gap. While it would be alternatingly formed by either the cutting cylinder 8 or 9 cooperating with the collection cylinder 105 of Bolza-Schunemann, the result would still be only one cutting gap. Only one web 101 would pass through that one cutting gap. There would not be a first transverse cutting assembly and a second cutting assembly arranged offset from each other in the circumferential direction of the transport cylinder.

There would not be a first conveying path for a first web and a second conveying path for both the first web and a second web. There would not be a first cutting gap defining the first conveying path for a first web. There would not be a second cutting gap defining the second conveying path for the first web as well as for the second web.

In the discussion of the Hillebrand reference in the Office Action, it is asserted that Hillebrand uses two cutting cylinders 8 and 9 with the transport cylinder 4. The Office Action fails to note that these two cutting cylinders 8 and 9 are used with the transport cylinder 4 in an alternating manner. At any time, either cutting cylinder 8 or cutting cylinder 9 is cooperating with the transport cylinder 4. At no time are both of cutting cylinder 8 and cutting cylinder 9 cooperating with transport cylinder 4, as required by claim 28.

It is also asserted in the Office Action that the purpose of the Hillebrand device is to obtain products of different product lengths. That aspect of the Hillebrand invention is accomplished by supporting each of the two cutting cylinders 8 and 9 on the rotating cutting cylinder support 3 so that they can be moved axially. Such axial movement, in combination with helically spliced drive gears will result in a slight rotation of each cutting cylinder in response to an axial shifting. Such a slight rotation of each cutting cylinder will relocate the cutting blade point of contact with the cutting strip 16. That will result in slight length variations between successive signatures cut by the alternating ones of the cutting cylinder. That aspect of the Hillebrand reference is not relevant to the use of the two offset first and second transverse cutting assemblies in accordance with the present invention and as recited in currently amended claim 28, For these reasons, claim 28, as currently pending, is believed to be patentable over the prior art

cited and relied on.

Claim 34 has been amended to conform its language to that of believed allowable, currently amended claim 28. Amended claim 34 is thus also believed to be allowable.

Various ones of the claims withdrawn from consideration, pending the indication of the allowability of claim 28, have been amended to conform their language to that of currently amended claim 28. All of these claims will be rejoinable with claim 28, which was noted as being a linking claim, upon the indication of allowability of claim 28.

SUMMARY

A verified English language translation of the German priority document relied on in the subject application, to perfect applicant's claim to the filing date of that German priority document, is being submitted concurrently. Independent claim 28 has be amended, as has been dependant claim 34. A number of the other claims have been withdrawn and amended. It is believed that claim 28 is patentable over the prior art cited and relied on by the Examiner. Rejoinder of the claims currently withdrawn is respectfully requested. Allowance of all of the claims and passage of the application to issue is also respectfully requested.

Respectfully submitted,

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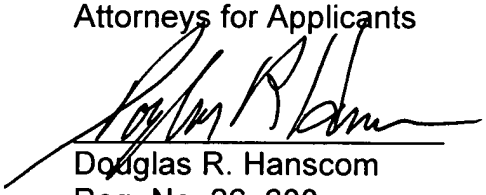

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